

CLEARING THE AIR

ELEVATED AIR TOXICS NO LONGER PROBLEM IN FOUR AREAS OF STATE

Feel free to breathe easier: Texas is cleaning up the air across the state, thanks to the Air Pollutant Watch List.

The Texas Commission on Environmental Quality has confirmed that air quality in four areas of the state has significantly improved in 2016 and so far in 2017.

Various airborne chemicals—nickel in Dallas, propionaldehyde in Texas City, sulfur dioxide in Beaumont, and benzene in Galena Park (next to the Houston Ship Channel)—are now below their respective Air Monitoring Comparison Values. AMCVs, set well below the levels where health effects are expected to occur, are screening values used by the TCEQ to evaluate air-monitoring data.

These air toxics were all part of the Air Pollutant Watch List, the TCEQ's special program to improve air quality in targeted areas.

"This shows the air quality successes we have been having," says Dr. Jessica Myers, the APWL coordinator. "The APWL works."

Keeping Watch

The Air Pollutant Watch List, which has existed internally at the TCEQ in various forms since 2000, was formalized into state



Adam Campbell of the Air Monitoring Division performs preventive maintenance on an air-monitoring station in East Austin.

law by the 82nd Texas Legislature, which convened in 2011.

"It is a program to address elevated air toxics in Texas," says Dr. Michael Honeycutt, the director of the TCEQ's Toxicology Division, which runs the APWL. "Its backbone is in air monitoring and air-monitoring data. We focus on values that are higher than we would like to see."

The Toxicology Division continuously reviews monitoring data on 132 air toxics from each of the state's [monitoring sites](#) to ensure that Texans are protected from potential health effects.

"We know a lot about air quality in Texas, and it is all publicly available," Honeycutt says.

Texas has one of the most extensive air-monitoring networks in the United States, with 94 monitoring sites for air toxics and a strategic monitoring team that can provide mobile monitoring. In Harris County alone, there are 15 volatile organic compound monitoring stations. To put this in perspective: The entire state of California has 20.

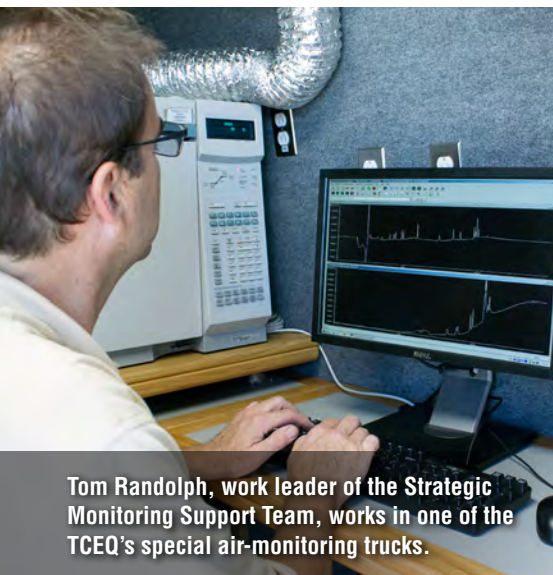
In areas in which the TCEQ decides that it does not have enough coverage

from existing air-monitoring stations, its Air Monitoring Division's Strategic Monitoring Support Team can deploy one of its fleet of trucks equipped with high-tech air-analysis equipment, including spectrometers and gas chromatography.

If, after reviewing available air-monitoring data, TCEQ toxicologists determine that an air toxic needs to be reduced to protect human health and the environment, it can be added to the APWL.

The primary mechanism that is used to reduce elevated air toxics is through permitting. Technicians in the Air Permits Division write in special requirements for both new permits and permit renewals in order to reduce the problem pollutant.

"No one wants to be on the APWL," Myers says. "When we identify values that are of concern, we work with the facilities in the area to reduce those levels, so hopefully we won't need to add them to the APWL."



Tom Randolph, work leader of the Strategic Monitoring Support Team, works in one of the TCEQ's special air-monitoring trucks.

Cleaning Up the Air

The tools available to the TCEQ in the APWL work, Myers says, and the recent de-listings are good news.

"Once a problem has been fixed, we want to get it off the list," Myers says, adding that these de-listings were overdue.

Each area had long seen improvement in air quality.

In 2016, the following were removed from the APWL: [nickel in Dallas](#), [propionaldehyde in Texas City](#), and [sulfur dioxide in Beaumont](#). So far in 2017, [benzene in Galena Park](#) has been removed.

Nickel in Dallas

Nickel, which is used to make steel and other alloys, was added to the APWL in 2004 because of persistent elevated levels at the stationary monitor at 3049 Morrell Ave. in Dallas. The TCEQ identified DC Bumper, an automotive chrome bumper recycling facility, formerly known as Dal Chrome, as the source for the nickel pollution. The facility closed in 2013, and the annual average nickel concentrations consequently decreased.

Propionaldehyde in Texas City

In 2001, the TCEQ added an area of Texas City to the APWL to address odorous concentrations of propionaldehyde, which was identified by the TCEQ's mobile monitoring team. Since then, Dow Chemical, formerly known as Union Carbide, which was identified as the source of the elevated levels, has made significant improvements—especially with the installation of a flare and controlled venting—to reduce propionaldehyde emissions.

Sulfur Dioxide in Beaumont

In 2003, an area of Beaumont was added to the APWL to address elevated air concentrations of sulfur dioxide, which was measured during a mobile monitoring project. Sulfur dioxide is a colorless gas with a pungent, irritating odor that is commonly emitted from coal- and oil-fired combustion and various chemical processes.

When the area was initially placed on the APWL, the ExxonMobil Refinery was

by far the largest emitter of sulfur dioxide. Since then, ExxonMobil has made several procedural and technological improvements, including the installation of a wet scrubber, to reduce its sulfur dioxide emissions. Since 2012, no exceedances of the TCEQ



Maria Tran, a member of the Strategic Monitoring Support Team, conducts air quality analysis in one of the TCEQ's air-monitoring trucks.

sulfur dioxide regulatory standard have been measured at the two stationary monitors in the area.

Benzene in Galena Park

In 2000, an area of Harris County along the Houston Ship Channel was added to the APWL to address elevated benzene air concentrations at the TCEQ's Galena Park monitoring site. Some of the biggest benzene emitters in this industrial zone were Kinder Morgan's Galena Park Terminal, Houston Refining, Vopak Terminal Galena Park, Pasadena Refining System, Texmark Chemicals, and Valero's Houston Refinery.

Various measures were taken by the TCEQ to fix this issue. These measures included increased inspections by TCEQ investigators to identify unreported and under-reported emissions; the use of mobile monitoring, including infrared cameras that can detect VOC emissions; and a find-and-fix initiative at the many industrial complexes in the area. Since 2009, annual average concentrations at the stationary monitors in the area have declined and have been well below the



The TCEQ Air Monitoring Division has a special fleet of trucks that are essentially mobile air-monitoring stations. They are equipped with high-tech air-analysis equipment, including spectrometers and gas chromatography.

long-term Air Monitoring Comparison Value for benzene.

Looking Ahead

Just because the toxic chemicals in these areas were removed does not mean the TCEQ has stopped watching, Myers said. The Toxicology Division continues with its evaluation of air quality monitoring data and, if needed, a chemical for a particular

area can easily be added back to the APWL.

“People think we are going to take a chemical off the list and walk away,” Myers said. “That is not the case.”

While it is no secret that Texas is home to plenty of heavy industry, efforts to clean up the air—thanks in part to close monitoring and shrewd permitting decisions—

have been massively successful over the last twelve years.

According to the EPA’s [Toxics Release Inventory](#), Texas has seen the onsite release of toxic chemicals into the air go down from 93.6 million pounds in 2003 to 57.8 million in 2015, which represents a decrease of 38.2 percent.

“The rigorous practices in Texas and the APWL deserve at least some of

For More Information

Monitoring Sites
www.tceq.texas.gov/airquality/monops/sites/mon_sites.html

Nickel in Dallas
www.tceq.texas.gov/assets/public/implementation/tox/apwlproposal/may16/0401_doc.pdf

Propionaldehyde in Texas City
www.tceq.texas.gov/assets/public/implementation/tox/watchlist/delisting/1202.pdf

Sulfur Dioxide in Beaumont
www.tceq.texas.gov/assets/public/implementation/tox/paso2-background.pdf

Benzene in Galena Park
www.tceq.texas.gov/assets/public/implementation/tox/apwlproposal/oct16/1206document.pdf

Toxics Release Inventory
www.epa.gov/toxics-release-inventory-tri-program

the credit for these improved numbers,” says Honeycutt. “The Toxics Release Inventory shows that Texas is headed in the right direction.” 🗺️



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